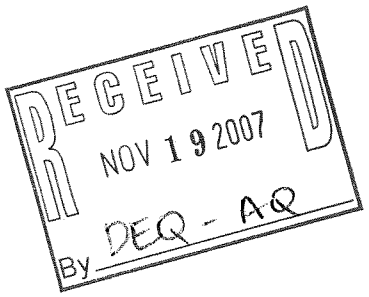
MotivePower
A Wabtec company



Tier II OP and PTC Renewal Application

Prepared For:

MotivePower, Inc., a WABTEC Company
Boise, Idaho

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November 19, 2007

AGI Project No. 99092-006

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
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PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
1. Company Name	MotivePower, Inc., a Wabtec Company
2. Facility Name (if different than #1)	
3. Facility I.D. No.	001-00107
4. Brief Project Description:	

FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
6. Primary Facility Permit Contact Person/Title	Art Anderson, EH&S Manager
7. Telephone Number and Email Address	(208) 947-4821 / aanderson@wabtec.com
8. Alternate Facility Contact Person/Title	Dave Power, EH&S Specialist
9. Telephone Number and Email Address	(208) 947-3026, dpower@wabtec.com
10. Address to which permit should be sent	4600 Apple Street
11. City/State/Zip	Boise, Idaho 83716
12. Equipment Location Address (if different than #10)	4600 Apple Street (Main Facility) / 2100 Braniff Street (Truck & Engine Annex (TEA))
13. City/State/Zip	Boise, Idaho 83716
14. Is the Equipment Portable?	☐ Yes ☒ No
15. SIC Code(s) and NAISC Code	Primary SIC: 3743 Secondary SIC (if any): 379 NAICS: 33651
16. Brief Business Description and Principal Product	Manufactures and remanufactures diesel electric locomotives and locomotive components.
17. Identify any adjacent or contiguous facility that this company owns and/or operates	

PERMIT APPLICATION TYPE	
18. Specify Reason for Application	☐ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source ☒ Modify Existing Source: Permit No.: T2-060031 Date Issued: November 5, 2002 ☐ Permit Revision ☐ Required by Enforcement Action: Case No.:

CERTIFICATION		
IN ACCORDANCE WITH **IDAPA 58.01.01.123** (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.		
19. Responsible Official's Name/Title	Mark S. Warner, Vice President and General Manager	
20. RESPONSIBLE OFFICIAL SIGNATURE	Mark S. Warner	Date: 11/19/07
21. ☒ Check here to indicate you would like to review a draft permit prior to final issuance.		

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EXECUTIVE SUMMARY

As currently identified in the Tier II Operating Permit (OP) (Permit No. T2-060031) issued November 5, 2002, and revised December 18, 2006, the MotivePower facility is comprised of two individual facilities that are located approximately one mile apart and operate in Boise, Idaho. The main facility, Motive Power Apple Street (MPAS) is located at 4600 Apple Street, and the Truck and Engine Annex (TEA) is located at 2100 Braniff Street. However, both are considered a single facility with respect to air permitting and dispersion modeling.

The MPAS facility primarily manufactures and remanufactures diesel electric locomotives and locomotive components. The facility also provides overhaul and maintenance work on locomotives. The TEA is a business unit of MotivePower that remanufactures locomotive trucks (wheel assembly, locomotive support, and propulsion unit) and locomotive diesel engines for MPAS and for other customers outside of MotivePower remanufacturing contracts. Regulated emission sources at the MotivePower facility that are covered under the existing Tier II OP and Permits-to-Construct (PTC) include:

- Seller Natural Gas-Fired Boilers (2 Units), MPAS
- South Large Paint Shop, MPAS
- North Large Paint Shop, MPAS
- Strip-Wash-Blast-Paint Building, MPAS
- Small Paint Shop, MPAS
- Spray Paint Booth, TEA
- East Paint Shop, MPAS
- Bead-Blast Enclosures (2 Units), MPAS
- Bead-Blast Enclosures (2 Units), TEA
- Shot-Blast Booth, TEA
- Compressor Test Stand Engine, TEA
- Locomotive Engine Test Cell, TEA

The facility is currently classified as a synthetic minor source in accordance with IDAPA 58.01.01.401.01, for Tier II permitting due to a potential to emit (PTE) for nitrogen oxides (NO2) and volatile organic compounds (VOCs) less than 100 tons per year (tons/yr), each, for a single hazardous air pollutant (HAP) less than 10 tons/yr, and aggregate HAPs less than 25 tons/yr. Therefore, MotivePower anticipates ongoing classification as a synthetic minor source upon issuance of the new PTCs.

MotivePower is required to renew their *Final Tier II OP and PTC, Permit No. 001-00107*, which was issued on November 5, 2002, and expires on November 5, 2007. However, it is MotivePower's intent to replace the Tier II Operating Permit and Permit-to-Construct (Tier II OP and PTC) with new PTCs. In general, this PTC application includes the following significant modifications from the existing Tier II OP and PTC:

- An increase in the allowable paint usage limit - up to 100 gallons of paint products per day per shop.

- An increase in overall facility paint products usage limit from 19,500 to 26,750 gallons.

- An increase of in potential emission rates for particulate matter (PM), PM-10, VOCs and HAPs that are emitted by the surface coating operations, while still remaining below major source thresholds.

- The elimination of insignificant activities, their associated material throughput limits and recordkeeping requirements from the PTC (e.g. bead blast enclosures).

- The removal of the duplicitous limit on the number of locomotive engines tested.

Additional information regarding our rationale for these proposed modifications are provided throughout this report.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this application is to meet the obligation to renew the existing 2002 *Final Tier II Operating Permit and Permit to Construct, Permit No. T2-060031* issued on November 5, 2002 for the MotivePower Facility in Boise, and to replace it with new Permits-to-Construct.

In general, this PTC application includes the following modifications from the 2006 Tier II OP and PTC application:

1. Increasing the allowable daily paint products usage at each shop to 100 gallons.

2. The use of facility-wide coating application rates (26,750-gallon per 12-month rolling period) to ensure compliance with the emission limitations. Facility-wide coating application rates provide more operational flexibility and set federally enforceable emission limits, which will permit the use of a more reasonable potential to emit (PTE).

3. An increase of in potential emission rates for particulate matter (PM), PM-10, VOCs and HAPs that are emitted by the surface coating operations, while still remaining below major source thresholds.

4. The reconciliation of emission estimates and limits between the existing 2006 Tier II OP and PTC and this application.

5. The re-classification of the Bead-Blast Enclosures (two at MPAS and two at the Annex) as insignificant emission sources on the basis of their sizes. The bead-blast enclosures and nutshell-blasting unit, as designed, meet the requirements under IDAPA 58.01.01.317.b.i.(30) and should therefore be classified as insignificant. Therefore, MotivePower is requesting the appropriate designation of these emission sources as insignificant and to remove unnecessary (to ensure compliance with applicable emission thresholds) and burdensome recordkeeping and reporting obligations associated with the operation of these units.

6. The removal of the duplicitous limit on the number of locomotive engines tested.

This application generally includes a summary of the following applicable components specified under IDAPA 58.01.01 Sections 200 through 223, 314 and 315:

- General information for the facility.
- Specific information (e.g., physical, existing permit conditions, applicable requirements, emission estimates, and dispersion model input parameters for each emission unit).
- Potential to emit for the facility.
- Proposed modifications.
- New applicable requirements resulting from the modification.
- Air dispersion modeling.

A summary of the general information for the facility, regulatory history, and an overview of regulated emission sources is provided in the following sections.

1.2 Facility Description

As currently identified in the Tier II OP, the MotivePower facility is comprised of two individual facilities that are located approximately one mile apart (see Appendix A [Plot Plans], Figure 1 – Site Vicinity Map) and operate in Boise, Idaho. The MotivePower Apple Street (MPAS) facility is located at 4600 Apple Street (see Appendix A, Figure 2- Plot Plan), and the Truck and Engine Annex (TEA) is located at 2100 Braniff Street (see Appendix A Figure 3- Plot Plan). However, both are considered a single facility with respect to air permitting and dispersion modeling.

The MPAS facility primarily manufactures and remanufactures diesel electric locomotives and locomotive components. The facility also provides overhaul and maintenance work on locomotives. The maintenance and remanufacturing process generally involves: cleaning locomotives and component parts (blasting and steam cleaning); partial or total disassembly by mechanical means or air arc and torch cutting methods; electrical/mechanical testing and qualification of component parts for reuse; rebuilding or replacement of the components that fail testing and qualification procedures; locomotive re-assembly by mechanical and welding methods; painting and final testing and qualification for shipment.

The TEA is a business unit of MotivePower that remanufactures locomotive trucks (wheel assembly, locomotive support, and propulsion unit) and locomotive diesel engines for MPAS and for other customers outside of MotivePower remanufacturing contracts. The remanufacturing process for the trucks and diesel engines follows the general overall procedure as for a locomotive. The trucks and engines are brought to the shop, disassembled and cleaned; the component parts are mechanically inspected and re-qualified for reuse; components failing inspection are rebuilt or replaced; and finally, the trucks and engines are reassembled, tested, painted, and shipped to the customer or the MPAS Facility.

1.3 Regulatory History

Emissions to the atmosphere from the MotivePower site were first reported to IDEQ during the 1989 particulate matter with an aerodynamic diameter of 10 micrometers or less (PM-10) emission inventory work conducted by IDEQ. At that time, the site was known as Morrison Knudsen (MK) Boise Locomotive. The company went public in 1994 and transferred the title to the property to MK Rail Corporation (MK Rail). MK Rail Corporation submitted a Tier I OP application in 1995, as required by the Title V program of the Clean Air Act Amendments of 1990. Review of the Tier I OP materials by IDEQ resulted in identification of several emission sources that were initially constructed without obtaining a PTC. Therefore, a Tier II operating permit application was submitted in May 1996 to fulfill some of the PTC requirements.

On January 1, 1997, the company name was changed from MK Rail to MotivePower Industries (MPI) – Boise Locomotive Company. MPI later merged with Westinghouse Air Brake Company on November 19, 1999. The combined company was renamed Westinghouse Air Brake Technologies Company (Wabtec), and the facility is now known as MotivePower, Inc., a Wabtec company. The corporate headquarters for Wabtec are located at 1001 Air Brake Avenue in Wilmerding, Pennsylvania.

MotivePower submitted a facility-wide Tier II operating permit application in September 2001 to resolve several noncompliance issues and incorporate all existing PTCs at the MotivePower facility along with any applicable previously unpermitted emission sources so that federally enforceable emission limits could be set establishing the facility's PTE.

Prior to submitting the 2001 Tier II operating permit application, MotivePower researched the permitting applicability of locomotive load testing operations conducted within the MPAS Facility. Load testing involves monitoring engine performance and auxiliary equipment and parts while the locomotive is attached to a "load box" that provides an electrical load to the locomotive. Locomotives tested are fully assembled and operational. MotivePower found that locomotive load testing operations conducted in other states were exempt from permitting requirements because the emission source is mobile rather than stationary. Idaho regulations, as

per IDAPA 58.01.01.222.02.e, exempt "mobile internal combustion engines, marine installations, and locomotives" from stationary source permitting requirements. A MotivePower mobile source exemption assessment was submitted to IDEQ on March 27, 2001. IDEQ, after investigation of other state rulings and input from Region X of USEPA, determined that locomotive load testing operations were not subject to PTC requirements, and emissions from such operations could be excluded from the Tier II OP atmospheric dispersion modeling assessment.

On November 5, 2002, the final Tier II OP and PTC (PTC No. 001-00107) was issued to MotivePower by IDEQ, and on December 10, 2002, the IDEQ issued the Tier I OP (Permit No. 001-00107) to MotivePower.

On March 20, 2003, MotivePower submitted a request for administrative changes to the existing 2002 Tier I OP and the Tier II OP and PTC (PTC No. 001-00107) and to provide information regarding a nutshell blasting enclosure that was installed in 1997 at the MPAS facility. MotivePower submitted a request to withdraw the application on September 21, 2005.

On June 6, 2005, MotivePower submitted the renewal application for the Tier I OP to the IDEQ. The renewal application has been deemed complete and will be issued shortly after issuance of the revised Tier II and PTC.

On October 18, 2005, MotivePower submitted the renewal application for the Tier II OP and PTC to the IDEQ. The renewal application has been deemed complete; however, MotivePower submitted a request to withdraw the application on May 23, 2006.

On June 14, 2006, MotivePower submitted an application to revise the existing Tier I OP to request federally enforceable permit conditions to limit emissions below major source thresholds. The revised Tier II OP and PTC was issued on December 18, 2006, and is set to expire November 5, 2007.

1.4 Facility/Area Classification

MotivePower is located at 4600 Apple Street (MPAS) and on 2100 Braniff Street (Truck and Engine Annex) in Boise, ID. Boise is located within Air Quality Control Region (AQCR) 63 and Universal Transverse Mercator (UTM) Zone 11. The MotivePower is in North Ada County, which is designated as a limited maintenance area for carbon monoxide (CO) and PM-10.

The facility is currently classified as a synthetic minor source because potential emissions are below the levels outlined in IDAPA 58.01.01.008.10 for PM-10, CO, NO_2 and VOCs, while single and combined organic HAPs from surface coating activities are less than 10 tons/yr and 25 tons/yr, respectively. Therefore, MotivePower remain classified as a synthetic minor source upon the issuance of the new PTC.

The facility is not a designated facility, as defined in IDAPA 58.01.01.006.27. The facility is not subject to federal New Source Performance Standards (NSPS) in accordance with 40 CFR 60; federal National Emission Standards for Hazardous Air Pollutants (NESHAP) in accordance with 40 CFR 61; or federal Maximum Achievable Control Technology standards in accordance with 40 CFR 63.

1.5 Overview of Regulated Emission Sources

Regulated emission sources at the MotivePower facility that are covered under the existing 2006 Tier II OP and PTC include:

- Surface Coating Operations, MPAS and TEA:
  - South Large Paint Shop, MPAS.
  - North Large Paint Shop, MPAS.
  - Strip-Wash-Blast-Paint (SWBP) Building, MPAS.
  - Small Paint Shop, MPAS.
  - Spray-paint Booth, TEA.
  - East Paint Shop (proposed), MPAS.
- Shot Blast Booth (SWBP), MPAS.
- Bead-blast Enclosures (two), MPAS.
- Bead-blast Enclosures (two), TEA.
- Shot Blast Booth, TEA.
- Compressor Test Stand Engine, TEA.
- Locomotive Engine Test Cell Stand, TEA
- Seller Boilers (Two, 6.7 MMBtu/hr, each), MPAS.

1.6 Overview of Insignificant Emission Sources

Specific existing sources for which a classification as insignificant is being requested include:

- Bead-blast Enclosures (four), MPAS and TEA.

The rationale and regulatory analysis for the classification as insignificant is summarized in Sections 2.7 and 2.8 for each emission source.

In addition, various activities and emission units identified as either insignificant on the basis of size or production rate, or applicable for the Category II Exemption include the following:

- Various Natural Gas-Fired Combustion Sources and Space Heaters.
    - *IDAPA 58.01.01.317.01.b.i (5) Combustion source, less than 5 MMBtu/hr, exclusively using natural gas, butane, propane, and/or LPG and (18) Space heaters and/or hot water heaters using natural gas, propane or kerosene and generating less than 5 MMBtu/hr.*

    - *IDAPA 58.01.01.222.02.c Fuel burning equipment for indirect heating and for heating and reheating furnaces using natural gas, propane gas, liquefied petroleum gas, or biogas (gas produced by the anaerobic decomposition of organic material through a controlled process) with hydrogen sulfide concentrations less than two hundred (200) ppmv exclusively with a capacity of less than fifty (50) million Btu's per hour input.*

    The locations, number of heaters and process heating equipment, and the heat input are summarized as follows:

    MPAS

    - Small admission building, one heater with a heat input of 0.1 MMBtu/hr and one with a heat input of 0.3 MMBtu/hr, each.

    - Large admission building, 16 heaters with a heat input of 0.133 MMBtu/hr, each.

    - Fabrication shop, 25 heaters with a heat input of 0.350 MMBtu/hr, each, 2 heaters with a heat input of 0.093 MMBtu/hr, each, and one heater with a heat input of 0.056 MMBtu/hr.

- Component shop, four heaters with a heat input of 0.350 MMBtu/hr, each.

- Locomotive shop, 26 heaters with a heat input of 0.350 MMBtu/hr, each.

- Finish shop, five heaters with a heat input of 0.264 MMBtu/hr, each.

- Boiler room, one heater with a heat input of 0.100 MMBtu/hr.

- South large paint shop, two heaters with a heat input of 1.00 MMBtu/hr, each.

- North large paint shop, four heaters with a heat input of 0.350 MMBtu/hr, each.

- East paint shop (proposed), two heaters with a heat input of 3.30 MMBtu/hr, each.

- Small paint shop, one heater with a heat input of 0.960 MMBtu/hr.

- Strip-wash-blast-paint shop, 10 heaters with a heat input of 0.340 MMBtu/hr, each; six heaters with a heat input of 0.34 MMBtu/hr, each; four heaters with a heat input of 0.130 MMBtu/hr, each; one heater with a heat input of 0.175 MMBtu/hr; one heater with a heat input of 0.100 MMBtu/hr; two heaters with a heat input of 0.675 MMBtu/hr, each; one heater with a heat input of 0.092 MMBtu/hr; and one heater with a heat input of 4.536 MMBtu/hr.

- Locomotive Shop, Steam Cleaner, Alkota Model 12,000 Boiler with a heat input of 1.04 MMBtu/hr.

- SWBP Building, Two Steam Cleaners, Alkota Model 12,000 Boiler with a heat input of 1.04 MMBtu/hr, each.

- Small Paint Shop, Steam Cleaner, Alkota Model 12,000 Boiler with a heat input of 1.04 MMBtu/hr.

- Southern Property Boundary, Diesel-fired, internal combustion engine, 143 HP, fire pump with an estimated heat input of 0.685 MMBtu/hr.

  Note: IDEQ determined that the fire pump engine would need to be limited to operation of one (1) hour per week to be excluded from the dispersion modeling analysis. Therefore, MotivePower is requesting a permit condition

to limit operations to one hour per week, except during emergencies.

- Human Resources Building, Diesel-fired, 12.2 HP emergency generator with an estimated heat input of 0.137 MMBtu/hr. This unit shall only run one (1) hour per week for testing, except during an emergency, when operation shall be for the duration of the event.

- Southern Property Boundary, Maxom Tube-O-Therm evaporator with a heat input of 2.0 MMBtu, natural gas.

TEA Facility

- Process heating equipment: one Hurricane 60-Hi Profile Parts Washer with a heat input of 0.380 MMBtu/hr, one Hurricane 84-Parts Washer with a heat input of 0.380 MMBtu/hr, one PROCECO Parts Washer Model LTW 1000G with a heat input of 2.5 MMBtu/hr, and one LANDA Model ENG-4-300021C Parts Washers with a heat input of 0.500 MMBtu/hr.

- Space heating: 12 heaters with a heat input of 0.350 MMBtu/hr, each.

- Propane-fired – 2 heaters with a heat input of 0.350 MMBtu/hr, each.

- Fuel storage tanks, two aboveground storage tanks (2,000-gallon diesel and 2,000-gallon gasoline) at the MPAS site and one underground storage tank (6,000-gallon diesel fuel) at the TEA site. *IDAPA 58.01.01.317.01.b.i(3) - Operation, loading and unloading of volatile organic compound storage tanks, ten thousand (10,000) gallons capacity or less, with lids or other appropriate closure, vapor pressure not greater than eighty (80) mm Hg at twenty-one (21) degrees C. Operation, loading and unloading of gasoline storage tanks, ten thousand (10,000) gallons capacity or less, with lids or other appropriate closure.*

- Batch Solvent Distillation Units, two at the MotivePower - MPAS facility and one at the TEA. *IDAPA 58.01.01.317.01.b.i (15) Batch solvent distillation, not greater than fifty-five (55) gallons batch capacity.*

- Finish Building and Other Areas, aerosol painting operations, MPAS site. *IDAPA 58.01.01.317.01.b.i (30) An emission unit or activity with potential emissions less than or equal to the significant emission rate as defined in Section 006 and actual emissions less than or equal to ten percent of the levels contained in Section 006*

of the definition of significant and no more than one Ton/yr of any hazardous air pollutant.

- Groundwater treatment (currently inactive). *IDAPA 58.01.01.317.01.b.i (30) An emission unit or activity with potential emissions less than or equal to the significant emission rate as defined in Section 006 and actual emissions less than or equal to ten percent of the levels contained in Section 006 of the definition of significant and no more than one Ton/yr of any hazardous air pollutant.*

- Welding, various locations. *IDAPA 58.01.01.317.01.b.i (9) Welding using not more than one (1) ton per day of welding rod.*

- Various aqueous tanks and vessels, MPAS and TEA. *IDAPA 58.01.01.317.01.b.i(19) - Tanks, vessels, and pumping equipment, with lids or other appropriate closure for storage or dispensing of aqueous solutions of inorganic salts, bases and acids.*

- Various equipment used to pump, load, unload or store new and used oils/lubricants, MPAS and TEA. *IDAPA 58.01.01.317.01.b.i(20) - Equipment used exclusively to pump, load, unload, or store high boiling point organic material with lids or other appropriate closures.*

- Water based lubricants for metalworking, MPAS and TEA. *IDAPA 58.01.01.317.01.b.i(27) - Storage and handling of water based lubricants for metal working where the organic content of the lubricant is less than ten percent.*

Other activities and emission units that may be present at the MPAS and TEA that are identified as *presumptively* insignificant sources under IDAPA 58.01.01.317.01.a.i, include, but are not limited to:

- IDAPA 58.01.01.317.01.a.i(2) Mobile transport tanks on vehicles except for those containing asphalt and not including loading and unloading operations.

- IDAPA 58.01.01.317.01.a.i(4) Storage tanks, reservoirs and pumping and handling equipment of any size, limited to soaps, lubricants, lubricating oil, treater oil, hydraulic fluid, vegetable oil, grease, animal fat, aqueous salt solutions or other materials and processes using appropriate lids and covers where there is no generation of objectionable odor or airborne particulate matter.

- IDAPA 58.01.01.317.01.a.i(5) Pressurized storage of oxygen, nitrogen, or other inert gases.

- IDAPA 58.01.01.317.01.a.i(7) Boiler water treatment operations, not including cooling towers.

- IDAPA 58.01.01.317.01.a.i(9) Vents from rooms, buildings and enclosures that contain permitted emissions units or activities from which local ventilation, controls, and separate exhaust are provided.

- IDAPA 58.01.01.317.01.a.i(10) Internal combustion engines for propelling or powering a vehicle.

- IDAPA 58.01.01.317.01.a.i(12) Brazing, soldering, and welding equipment and cutting torches for use in cutting metal wherein components of the metal do not generate hazardous air pollutants or hazardous air pollutant precursors.

- IDAPA 58.01.01.317.01.a.i(15) Drop hammers or hydraulic presses for forging or metalworking.

- IDAPA 58.01.01.317.01.a.i(28) Plant maintenance and upkeep including routine housekeeping, janitorial activities, cleaning and preservation of equipment, preparation for and painting of structures or equipment, re-tarring roofs, applying insulation to buildings in accordance with applicable environmental and health and safety requirements and lawn, landscaping and grounds keeping activities. Provided these activities are not conducted as part of a manufacturing process, are not related to the sources' primary business activity, and not otherwise triggering a permit modification.

- IDAPA 58.01.01.317.01.a.i(30) Maintenance of paved streets and parking lots including paving, stripping, salting, sanding, cleaning and sweeping of streets and paved surfaces. Provided these activities are not related to the source's primary business activity, do not otherwise trigger a permit modification, and fugitive emissions are reasonably controlled as required in Section 808.

- IDAPA 58.01.01.317.01.a.i(34) Steam cleaning operations.

- IDAPA 58.01.01.317.01.a.i(37) Portable drums and totes.

- IDAPA 58.01.01.317.01.a.i(38) Fluorescent light tube and aerosol can crushing in units designed to reduce emissions from these activities.

- IDAPA 58.01.01.317.01.a.i(48) Satellite accumulation areas and temporary accumulation areas managed in compliance with RCRA.

- IDAPA 58.01.01.317.01.a.i(66) Hydraulic and hydrostatic testing equipment.

- IDAPA 58.01.01.317.01.a.i(67) Batteries and battery charging stations, except at battery manufacturing plants.

- IDAPA 58.01.01.317.01.a.i(78) Air compressors, pneumatically operated equipment, systems, and hand tools.

- IDAPA 58.01.01.317.01.a.i(109) Process wastewater and ponds.

No additional information regarding the regulatory analysis of the insignificant and presumptively insignificant sources is provided within this application. The heaters/furnaces classified as insignificant were included in the air dispersion modeling analysis at IDEQ's request and are discussed in detail below.

1.7 2007 Air Dispersion Modeling Overview

The primary purpose of the this application is to renew the existing Tier II OP and PTC and replace it with a new PTC, and to increase the facility-wide annual and daily paint shop paint products limits. As a result of the permitting process, IDEQ requested that MotivePower perform a Full Impact Analysis for criteria pollutants and any applicable toxic air pollutants to demonstrate compliance with National Ambient Air Quality Standard (NAAQS) and IDEQ regulations and to establish enforceable emission limits.

Some sources that are/were exempt from PTC requirements were included in the atmospheric dispersion analyses because IDEQ's interpretation of Tier II OP regulations (IDAPA 58.01.01.400) required that the application confidently demonstrate that the impact from all sources at the facility would not cause or significantly contribute to an exceedance of a NAAQS. Those PTC-exempt sources that were included in the dispersion modeling included the Locomotive and Small Paint Shop Steam Cleaners, the Component Shop furnace, the Proceco Parts Washer at the TEA Site, and the Maxom Tube-O-Therm evaporator (presently not active), and the engine load testing (considered a mobile source) at MPAS, and various indirect-fired natural gas and LPG space heaters located throughout both MPAS and TEA.

Emission sources that were not included in the dispersion modeling analyses were the four Bead Blast and Nutshell Blasting units, which have previously been determined to be exempt from modeling, and the Diesel-Fired Emergency Generator, which will operate one (1) hour or less per week, except during emergencies.

In addition, IDEQ provided neighboring facilities that are co-contributing sources for the 24-hour and annual PM-10 standards to be included in the modeling analysis. These sources are the Treasure Valley Forest Products – Yamhill facility and the Central Paving facility.

1.8 Calculation of Potential to Emit

At each of the respective MotivePower facilities, physical limits of the existing shops and equipment, and the integrated processes and an inter-dependent flow-through manner of operations, restricts production. Only a portion of locomotive production at MPAS is supported by production at TEA. TEA produces trucks and locomotive engines for other customers; and therefore, has a different and larger per engine and truck unit production. In addition, client/contract specifications regarding the Locomotive Engine Test Cell at TEA differ from locomotive load testing requirements (mobile source) at MPAS. The time required to load, mobilize, manifold, test, de-manifold, and unload and engine for testing at TEA requires about one day each to complete. Presently, engines are tested using either a 4-hour or 8-hour load. As outlined in the existing permit, engine testing is limited to 200 engines, 280,000 gallons of diesel fuel, and 1,600 hours of testing per 12-month period. However, by limiting both fuel consumption and hours of operation, emissions will be controlled; therefore, MotivePower is requesting that the 200 engine production limit be removed from the permit. Production of truck sets at the TEA is also limited to 200 sets of trucks per 12-month period, but will be controlled by establishing a facility-wide limitation on the quantity of coatings, thinners, and cleanup materials used at both facilities.

Depending on client/contract specification, production at the MPAS facility may include smaller locomotive components (e.g., hoods, cabs, etc.) or entire locomotives. Locomotive teardown and/or new frame setup, blast, prime, assembly/reassembly, initial checkout, and subsequent teardown/new frame setup requires about 2.5 days per locomotive. However, locomotive components can be produced at a much higher rate. Therefore, the maximum locomotive production at MPAS is 150 locomotives per 12-month period plus any number of locomotive components depending on size and scope of work. Because the majority of the locomotives and locomotive components produced must be painted, emissions will be controlled by establishing a facility-wide limitation on the quantity of coatings, thinners, and cleanup materials to be used at MPAS and TEA.

The PTE for sources at the MotivePower facility was calculated using several different methods depending on the particular emission source:

- PTE for many small quantity emission sources, such as natural gas combustion units and shot blasting at the SWBP Building, was calculated by assuming continual 8,760 hours of operation over a consecutive 12-month period.

- PTE for locomotive engine testing at the TEA was based upon 1,600 hours of testing per year and a maximum of 280,000 gallons diesel each 12-month period.

- PTE for facility-wide coating operations at the MPAS and TEA facilities was based upon a maximum usage of coatings, thinners, and cleanup materials of 26,750-gallons each 12-month period.

The PTE for units such as the TEA Shot Blast Booth and Miscellaneous Solvent Usage at the MPAS facility was calculated by using the emissions associated with a known usage under a known site-wide production rate and the ratio of the potential production rate and the rate associated with the known usage. The PTE calculations can be found in Appendix C.

1.9 NAAQS and TAP Increment Compliance Demonstration

All stationary emission sources at the MotivePower facility that could measurably impact ambient air quality including both those sources without a proposed increase in emissions and those that are considered insignificant and/or exempt from permitting were included in this dispersion modeling analysis. This requirement was specified by correspondence from IDEQ staff to the consultants assisting MotivePower with preparation of the PTC application [American Geosciences, Inc. (AGI)]. The modeling analysis was necessary to demonstrate that the entire MotivePower facility (including the TEA) would not cause or significantly contribute to an exceedance of any ambient air quality standard, as per IDAPA 58.01.01.403. In addition, the assessment was done in support of the replacement of the expiring Tier II OP and PTC with a new PTC. The IDEQ-approved modeling protocol is presented in Appendix E. A thorough summary of the modeling analysis can be found in Chapter 4.0.

As part of the 2006 evaluation, TAP emissions from new sources or due to proposed increases in potential emissions were added together and compared to TAP Emission Screening Levels, as required by IDAPA 58.01.01.007.06 for the calculation of the TAP Net Emission Increase. For the requested increase to 100 gallons per day per shop and 26,750 gallons per year, any TAP emission increases were compared to the emission rates/limits outlined during the 2006 permit modification and subsequent Tier II OP and PTC. The requested increase in paint products use

did not cause any TAP Net Emission Increase above their Emission Screening Level. Therefore, no dispersion modeling was required for TAPs.

1.10 Facility-Wide Applicable Requirements

Fugitive Particulate Matter - IDAPA 58.01.01.650-651

Requirement

All reasonable precautions shall be taken to prevent particulate matter (PM) from becoming airborne in accordance with IDAPA 58.01.01.650-651.

Compliance Demonstration

MotivePower is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive particulate emissions. IDAPA 58.01.01.651 gives some examples of ways to reasonably control fugitive emissions, which include using water or chemicals, applying dust suppressants, using control equipment, covering trucks, paving roads or parking areas, and removing materials from streets.

MotivePower is required to maintain a record of all fugitive dust complaints received. In addition, MotivePower is required to take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. MotivePower is also required to maintain records that include the date that each complaint was received and a description of the complaint, MotivePower's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure that the methods being used by MotivePower to reasonably control fugitive PM emissions whether or not a complaint is received, MotivePower is required to conduct periodic inspections of the facility. MotivePower is required to inspect potential sources of fugitive emissions during daylight hours and under normal operating conditions. If MotivePower determines that the fugitive emissions are not being reasonably controlled MotivePower is required to take corrective action as expeditiously as practicable. MotivePower is also required to maintain records of the results of each fugitive emission inspection.

MotivePower is required to take corrective action as expeditiously as practicable. In general, IDEQ believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive particulate emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Control of Odors - IDAPA 58.01.01.775-776

Requirement

IDAPA 58.01.01.776 states that: "No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution." This condition is currently considered federally enforceable until such time it is removed from the SIP, at which time it will be a state-only enforceable requirement.

Compliance Demonstration

MotivePower is required to maintain records of all odor complaints received. If the complaint has merit, the MotivePower is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, MotivePower's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

MotivePower is required to take corrective action as expeditiously as practicable. In general, IDEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Visible Emissions - IDAPA 58.01.01.625

Requirement

IDAPA 58.01.01.625 states that "(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than twenty percent (20%) opacity as determined . . ." by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, nitrogen oxides (NO2), and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this rule.

Compliance Demonstration

To ensure reasonable compliance with the visible emissions rule, MotivePower is required to conduct routine visible emissions inspections of the facility. MotivePower is required to inspect potential sources of visible emissions, during daylight hours and under normal operating conditions. The visible emissions inspection consists of a see/no-see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of

emission covered by this section, MotivePower must either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of thirty observations is required to be recorded when conducting the opacity test. If opacity is determined to be greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, MotivePower must take corrective action and report the exceedance in its annual compliance certification and in accordance with the excess emissions rules in IDAPA 58.01.01.130-136. MotivePower is also required to maintain records of the results of each visible emissions inspection and each opacity test when conducted. These records must include the date of each inspection, a description of MotivePower's assessment of the conditions existing at the time visible emissions are present, any corrective action taken in response to the visible emissions, and the date corrective action was taken.

MotivePower is required to take corrective action as expeditiously as practicable. In general, IDEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Excess Emissions – IDAPA 58.01.01.130-136

Requirement

MotivePower is required to comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns. Section 131.01 states "... The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05."

Compliance Demonstration

MotivePower will comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable.

Fuel-Burning Equipment – IDAPA 58.01.01.675

MotivePower is required to comply with the fuel-burning equipment rule.

The compliance demonstration is contained within the text of IDAPA 58.01.01.675 and described in the regulatory analysis for applicable sources. Refer to IDAPA 58.01.01.676-677.

Fuel-Sulfur Content – IDAPA 58.01.01.725-729

Requirement

Locomotives, locomotive engine test stand cell, and the compressor test stand engines at the MotivePower facility burn No. 2 fuel oil; therefore, the sulfur content limits for fuel oils apply, and are taken from IDAPA 58.01.01.725-728.

Compliance Demonstration

MotivePower is required to retain sulfur content documentation from the vendor for fuel delivered to the facility. This documentation is required to be kept for a five-year period.

Locomotives and Trucks Production Operating Requirements

As part of the PTC renewal, MotivePower proposes to increase the limit of coatings, thinners, and cleaning materials to 26,750 gallons per any consecutive 12-month period in order to limit the VOC and HAP emissions to below major source thresholds.

Also, MotivePower proposes to limit the locomotive engine tests to 1,600 hours per 12-month period, which is equivalent to conducting an eight-hour load test on 200 locomotive engines or a four-hour load test on 400 locomotive engines per any consecutive 12-month period. MotivePower is also required to limit the daily and annual throughput of the compressor test stand engine to 72 gallons per day and 26,280 gallons of diesel fuel per 12-month period.

The locomotive production and testing limits at the MotivePower facility are designed to limit the potential NO_2 emissions from the facility to below the Prevention of Significant Deterioration (PSD) threshold limits. MotivePower recognizes the need to ensure that emissions are limited via federally enforceable permit conditions; however, MotivePower believes that the fuel consumption and hours of operation of compressor test stand are sufficient to meet the minor source maximum emission rate. Due to the variability in the length of engine tests (4-hour vs. 8-hour), MotivePower could be limited in their ability to test engines. The emissions from diesel consumption are based on maximum load of the compressor test stand (maximum fuel consumption) over a given period of time (limit on the hours of operation). Therefore, the additional limit on the number of locomotive engines tested is duplicative and unnecessary to ensure that MotivePower meets the emission limitations. As such, MotivePower is requesting the limit on the number of locomotive engines tested be removed from the PTC.

Compliance Demonstration

MotivePower will continue to monitor and record the VOC and HAP composition and usage rate in gallons per month of coatings, thinners, and cleaning materials used in paint booths at the MPAS facility and TEA.

MotivePower will continue to monitor and record the hours of testing conducted on locomotive engines per month and per any consecutive 12-month period at the TEA facility. This documentation will be kept for a five-year period.

MotivePower is required to monitor and record the throughput of fuel supplied to the diesel engine in gallons per day and gallons per any consecutive 12-month period.

Air Pollution Emergency Rule – IDAPA 58.01.01.550-562

MotivePower is required to comply with the air pollution emergency rule. The compliance demonstration is contained within the text of IDAPA 58.01.01.550-562. No further clarification is necessary.

Open Burning – IDAPA 58.01.01.600-616

All open burning shall be done in accordance with IDAPA 58.01.01.600-616.

Test Methods and Procedures - IDAPA 58.01.01.157

As applicable to criteria pollutants and opacity, if a source test is performed to satisfy a performance or compliance test requirement, then MotivePower will use test methods and procedures in accordance with the requirements of Section 157 or IDEQ-approved alternative.

Monitoring and Recordkeeping – IDAPA 58.01.01.405 and 322.07

MotivePower is required to maintain recorded data in an appropriate location for a period of at least five years. No further clarification is necessary.

Renovation or demolition - 40 CFR 61, Subpart M

MotivePower will comply with all applicable portions of 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

Chemical Accidental Release - 40 CFR 68

MotivePower will comply with all applicable portions of 40 CFR 68 on the date when more than a threshold of a regulated substance is present in a process, as determined under 40 CFR 68.115.

Recycling and emissions reduction - 40 CFR 82, Subpart F

MotivePower will comply with applicable standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F.

No additional IDAPA facility wide requirements were identified. All limitations on source operations and any work practice standards affecting emissions are summarized in Chapter 2.0 for each specific regulated source.

2.0 SUMMARY OF EMISSION SOURCES

2.1 Seller Boilers No. 1 and No. 2, MPAS

The MPAS facility has two natural gas-fired boilers that are located at the east end of the Locomotive Shop (See Appendix A Figure 2). Both are Seller Model 105-E, horizontal immersion, steam boilers with a rated heat input capacity of 6.7 MMBtu/hr heat input. Only one of the Locomotive Shop Boilers operates at a time, while the other boiler is on standby mode. Emissions from the boilers are uncontrolled.

2.1.2 Applicable Requirements

The natural gas-fired boilers are less than 50 MMbtu/hr heat input and are exempt from PTC requirements as specified under IDAPA 58.01.01.222.02.c. All natural gas-fired units greater than 1.0 MMBtu/hr were required to be included in the atmospheric dispersion modeling analysis to enable confident demonstration that operation of the entire facility will result in compliance with applicable air quality standards. All units that exceed the 1.0 MMBtu/hr heat capacity were included in the current modeling analysis.

The Seller boilers addressed in this section were constructed prior to 1995; thereby exempting them from the TAP net emission increase calculation, as per IDAPA 58.01.01.007.06.c. Emissions from the boilers have not been proposed to increase due to this permitting process.

40 CFR 63, Subpart DDDDD – NESHAP: Industrial, Commercial & Institutional Boilers

The EPA identified industrial, commercial, and institutional boilers and process heaters as major sources of HAP emissions. The final rule was effective November 12, 2004 and amended on December 28, 2005. As applicable to the Wabtec-MotivePower facility, an affected source is defined as the collection of all existing industrial, commercial, or institutional boilers and process heaters within a subcategory located at a major source. If the boilers or process heaters are in the "existing small gaseous, liquid, or solid fuel subcategories," the facility is not required to keep any records or submit any reports. Small units are defined as any fire-tube boilers or any boiler and process heater with heat input capacities less than or equal to 10 million British thermal units per hour. Therefore, Subpart DDDDD does apply, but does not require any monitoring or recordkeeping because only small gaseous-fired units are used at the facility.

In addition to the Facility-wide requirements summarized in Section 1.11, the requirements that apply to the Seller Boilers No. 1 and No. 2 are summarized as follows:

IDAPA 58.01.01.677 – A person shall not discharge into the atmosphere from any fuel burning equipment in operation prior to October 1, 1979, or with a maximum rated input of less than 10 million BTU per hour, particulate matter in excess of 0.015 gr/dscf at 3% oxygen. This requirement applies to the natural gas-fired Seller Boilers No.1 and No. 2.

2.1.2 Existing Permit Conditions

The requirements that generally apply to the Seller Boilers No. 1 and No. 2 are summarized in the following table. Specific permit requirements are listed in the 2006 Tier II OP and PTC No. T2-060031.

Table 2.1.2
Seller Boilers Existing Permit Conditions

Parameter	Emission Limits	Applicable Requirements
PM	0.015 gr/dscf at 3% oxygen	IDAPA 58.01.01.677

The Seller Boilers No. 1 and No. 2 must be fueled by natural gas exclusively.

2.1.3 Emission Estimates

Emissions were calculated using emission factors for AP-42, Section 1.4, *Natural Gas Combustion*, July 1998, for small boilers (<100 MMbtu/hr). A conversion factor of 1020 Btu/scf was used to calculate natural gas usage on the basis of the boiler capacity. Annual emissions were calculated on the basis of 8760 hr/yr of operation. No changes to the 2006 emission estimates were necessary. Annual emissions were calculated on the basis of 8,760 hrs/yr of operation. The boilers are rated at 6.7 MMBtu/hr (6,568.63 scf/hr).

Table 2.1.3
Seller Boilers Emission Estimates

Pollutant	Emission Factor	Maximum Usage	Emission Rate	Emissions
	lbs/cu ft gas	scf/hr	lbs/hr	tons/yr
PM / PM-10	0.0000076	6,568.63	0.050	0.219
SO2	0.0000006		0.004	0.017
NO2	0.0001		0.657	2.877
VOCs	0.0000055		0.036	0.158
CO	0.000084		0.552	2.417
Lead	5.0E-10		3.28E-06	1.44E-05

2.1.4 Dispersion Modeling Input Parameters

No changes to the 2006 dispersion modeling input parameters were necessary. The dispersion modeling input parameters and results are summarized in Chapter 4.0, and a copy of the output data is included in Appendix F.

2.2 Surface Coating Operations, MPAS and TEA

Surface coating operations are conducted within seven (7) separate paint booths and two permitted, but as-yet not-built, paint booths that are or will be located within the six different buildings as follows:

- East Paint Shop (permitted (not built) paint booth Nos. 8 and 9), MPAS.
- North Large Paint Shop (two paint booths Nos. 3 and 4), MPAS.
- SWBP Building (one paint booth No. 5), MPAS.
- South, Large Paint Shop (two paint booths No. 1 and 2), MPAS.
- Small Paint Shop (one paint booth No. 6), MPAS.
- Spray-Paint Booth (one paint booth No. 7), TEA.

A description of each building and associated paint booth (s) is provided below.

2.2.1 East Paint Shop, MPAS

The proposed East Paint Shop will be centrally located to the south of the SWBP Building at the MPAS Facility (see Appendix A, Figure 2). The proposed shop will be used to apply a primer coating to locomotive components and parts (e.g., hoods, cabs, etc.).

The East Paint Shop Building will contain two fully enclosed spray paint booths manufactured by Spray Booth Systems (SBS), Model No. SBS 2346-889. Each paint booth is 20 feet wide x 30 feet high and 80 feet long. The paint booths will be used to paint locomotive components and parts.

Each booth will be equipped with a 42,000 cubic feet per minute (cfm) air handling system to supply filtered makeup air and heated air at the end of each booth. Both, natural gas fired heaters (air makeup units) are manufactured by Sterling/Alton/Applied Air, Model No. DFIM225HRS;

are 25 horsepower; and have a heat input of 3.30 million British Thermal Units per hour (MMBtu/hr). Emissions from the heaters will be uncontrolled. The makeup air will be supplied at 100 feet per minute across each booth and carries over spray to the exhaust chamber filters. Emissions from each booth will be vented through two stacks, each 36 ft above ground level. VOC emissions from coating operations will be uncontrolled.

Particulate emissions from the paint booths will be controlled by two banks of filters (72 filters, each 20 inch x 20 inch x 2 inch deep) each having a minimum particulate control efficiency of 99.58 percent. The paint booths are end draft, dry filter Model PDT-8018-205, manufactured by SBS. Detailed drawings of the paint booths are unchanged, and were provided with the 2006 Tier II OP and PTC modification.

With respect to the heater, no PTC is required for these emission sources because the two 3.30 MMBtu/hr natural gas-fired heaters satisfy the criteria set forth in Section 220 and Section 221 (i.e., emissions are less than 10% of the significant emission rates) and are below regulatory concern (BRC). 10% of a significant increase in emissions, as defined by IDAPA 58.01.01.006.101, includes the following emission quantities for the pollutants potentially emitted from the proposed modification: 10.0 tons/yr CO, 4.0 tons/yr NOx, 4.0 tons/yr SO_2, 2.5 tons/yr particulate matter, 0.06 tons/yr lead, 1.5 tons/yr PM-10, 4.0 tons/yr VOCs.

These emission units are also identified as insignificant on the basis of size under IDAPA 58.01.01.317.01.b.i (5), which includes combustion sources, ..."less than 5 MMBtu/hr, exclusively using natural gas...and generating less than 5 MMBtu/hr".

An operations and maintenance manual for the air pollution control equipment used to control PM emissions will be developed and will be essentially the same as the other manuals approved by IDEQ for other paint booth air pollution control equipment at the facility. The manual will be maintained on site.

2.2.2 North Large Paint Shop, MPAS

The North Large Paint Shop is located near the southwest corner of MPAS (see Appendix A, Figure 2). The North Large Paint Shop was issued a PTC (Permit No. 001-00107) on October 18, 1994 and was incorporated into the Tier II OP and PTC issued on November 5, 2002. TAP emissions from the North Large Paint Shop were not included in the 2001 calculation of TAP Net Emission Increases at that time because this emission source was operating prior to July 1, 1995 as specified under IDAPA 58.01.01.007.06.c.i. However, the proposed increase in TAP emissions due to the new paint usage limit (100 gallons per day) was compared to the respective EL to determine compliance with IDAPA 58.01.01.585-586.

The shop contains two spray paint booths used to paint locomotives or component parts. Each booth is equipped with a 48,400 scfm air handling system. Emissions from each booth are vented through two stacks, each 39 ft above ground level. Particulate emissions from both booths are controlled by a bank of filters (72 filters, each 20 inch x 20 inch x 2 inch deep) having a minimum particulate control efficiency of 99.58 percent. The filter bank is a model Supra II Collector, manufactured by Columbus Industries, Inc. The paint shop also utilizes two space heaters each with a rating of 3.6 MMBtu/hr. These heaters are exempt from PTC requirements as outlined in IDAPA 58.01.01.317.01.b.i.18. However, emissions from these heaters were included in the dispersion modeling analysis at IDEQ's request.

An operations and maintenance manual for the air pollution control equipment used to control PM emissions has been developed, approved by IDEQ, and is maintained on site

2.2.3 Strip-Wash-Blast-Paint Building, MPAS

The Strip-Wash-Blast-Paint (SWBP) Building is located near the northern property boundary of the MPAS Facility (See Appendix A, Figure 2). The SWBP Building was issued a PTC on August 17, 1998 and was incorporated into the Tier II OP and PTC issued on November 5, 2002. TAP emissions from the SWBP Building were included in the 2001 calculation of TAP Net Emission Increase because this emission source began operating after July 1, 1995 as specified under IDAPA 58.01.01.007.06.c.i. The proposed increase in TAP emissions due to the new paint usage limit (100 gallons per day) was compared to respective EL's to determine compliance with IDAPA 58.01.01.585-586.

The building is comprised of four separate sections, including a strip section, a wash section, an abrasive shot blasting and primer painting section, and a mechanical and locker/break room section. The strip section is designed for the disassembly of locomotives. The wash section is used to wash the locomotive frame, car body, and miscellaneous equipment. Minor welding takes place in the mechanical room. The blast and paint section is used for steel-grit blasting of locomotive frames and components to remove old paint and rust. The booth is designed so that either painting or blasting can occur at any one time, but never simultaneously. Blasting and primer painting make-up air is provided by a two-speed, 4.5 MMbtu/hr gas-fired heating unit. The dual-use shot-blasting/primer booth has a separate exhaust system for shot blasting and painting. Shot blasting is described separately in Section 2.3.

Paint exhaust air is filtered through two, 31,380 acfm, 6 ft x 23 ft, paint filter bank assemblies in parallel. The filter system is a two-stage system designed by OSM. The first stage is an OSM Ultra Media filter of 20" x 20" x 1"deep and the second stage is an OSM-100 filter of 20" x 20" x 16". The filters achieve a PM control efficiency of 99.8 percent and are designed to operate within a pressure drop of 0.1 – 1.0 inch W.G. 10-gauge steel doors protect the filters during the

blasting process. The entire system is electrically interlocked to operate only in the above-described manner.

An operations and maintenance manual for the air pollution control equipment used to control PM/PM-10 emissions has been developed, approved by IDEQ, and is maintained on site.

2.2.4 South Large Paint Shop, MPAS

The South Large Paint Shop is located in the Southwestern corner of the MPAS Facility, adjacent to the North Large Paint Shop (see Appendix A Figure 2). The paint shop was installed or last modified in 1988 and is used to paint manufactured or remanufactured locomotives. The South Large Paint Shop was issued a PTC (Permit No. 001-00107) as part of the Tier II OP and PTC issued on November 5, 2002. TAP emissions from the South Large Paint Shop were not included in the 2001 calculation of TAP Net Emission Increase at that time because this emission source was operating prior to July 1, 1995 as specified under IDAPA 58.01.01.007.06.c.i. However, the proposed increase in TAP emissions due to the new paint usage limit (100 gallons per day) was compared to respective EL's to determine compliance with IDAPA 58.01.01.585-586.

The South Large Paint Shop is comprised of two booths (the east and the west booth). The western booth exhausts at a height of 31 ft through two ducts, each with an average flow rate of 17,500 acfm. The eastern booth exhausts at a height of 27 ft through two ducts, each with an average flow rate of 12,900 acfm. Emissions from both sets of vents are controlled by a bank of filters having a particulate control efficiency of 99.58 percent as per the manufacturer. The VOC emissions are uncontrolled.

An operations and maintenance manual for the air pollution control equipment used to control PM emissions has been developed, approved by IDEQ, and is maintained on site.

2.2.5 Small Paint Shop, MPAS

The Small Paint Shop is located in the central portion of the MPAS Facility (See Appendix A, Figure 2). The source was installed or last modified in 1968. The Small Paint Shop was issued a PTC (Permit No. 001-00107) as part of the Tier II OP and PTC issued on November 5, 2002. TAP emissions from the Small Paint Shop were not included in the 2001 calculation of TAP Net Emission Increase at that time because this emission source was operating prior to July 1, 1995 as specified under IDAPA 58.01.01.007.06.c.i. However, the proposed increase in TAP emissions due to the new paint usage limit (100 gallons per day) was compared to respective EL's to determine compliance with IDAPA 58.01.01.585-586

The shop contains one paint booth and is used to paint small parts, car bodies, high voltage cabinets, locomotive fuel tanks, and various other locomotive parts. The booth exhausts at a height of 23 ft through two stacks, each with an average flow rate of 17,500 acfm. The booth is heated by a 0.96 MMbtu/hr heater to help cure freshly applied paint. Emissions from the booth are controlled by a bank of filters having a minimum particulate control efficiency of 99.58 percent as per the manufacturer. The VOC emissions are uncontrolled.

An operations and maintenance manual for the air pollution control equipment used to control PM emissions has been developed, approved by IDEQ, and is maintained on site.

2.2.6 Spray-Paint Booth, Braniff Street

The TEA Paint Booth, a Paint Booth Protectaire Model 530 DTT, is located in the northeast section of the Main TEA building (see Appendix A, Figure 3). The spray booth is used for painting locomotive engines and trucks. The source was installed or last modified in 1990. The Spray-Paint Booth was issued a PTC (Permit No. 001-00107) as part of the Tier II OP and PTC issued on November 5, 2002. TAP emissions from the Spray-Paint Booth were not included in the 2001 calculation of TAP Net Emission Increase at that time because this emission source was operating prior to July 1, 1995 as specified under IDAPA 58.01.01.007.06.c.i. However, the proposed increase in TAP emissions due to the new paint usage limit (100 gallons per day) was compared to respective EL's to determine compliance with IDAPA 58.01.01.585-586

There is one exhaust stack that vents the TEA Paint Booth. The stack exhausts at a height of 35 ft, with an average flow rate of 23,400 acfm. Particulate emissions from the paint shop are controlled by a bank of filters having a minimum particulate control efficiency of 99.58 percent as per the manufacturer and required in current permit. The VOC emissions are uncontrolled.

An operations and maintenance manual for the air pollution control equipment used to control PM emissions has been developed, approved by IDEQ, and is maintained on site.

2.2.7 Existing Emission Limitations

The existing emission limitations and operational conditions specified within the 2006 Tier II OP and PTC are summarized in the following table:

Table 2.2.7
2006 Emission Limits and Operational Conditions Summary
MPAS Facility

Emission Source	PM-10 Emissions		VOC Emissions	Existing Maximum Quantity of Coating Applied	
	lbs/hr	ton/yr	ton/yr	gal/day	gal/yr
South Large Paint Shop, MPAS	0.928 (0.232/stack)	0.616 (0.154/stack)	48.75 (facility-wide)	46	16,000
North Large Paint Shop, MPAS	1.16 (0.29/stack)	0.78 (0.195/ stack)	48.75 (facility-wide)	46	16,000
SWBP Building, MPAS	0.008	0.034	30	25	10,500
Small Paint Shop, MPAS	0.464 (0.232/stack)	0.194 (0.097/stack)	48.75 (facility-wide)	46	5,000
Spray-paint Booth, TEA	0.154	0.119	48.75 (facility-wide)	20	3,000
East Paint Shop, MPAS	None	None	48.75 (facility-wide)	245 (gal/month)	5,850

For all paint booths, MotivePower maintains or will maintain the static pressure drop across each spray-paint-booth exhaust filter and changes the filter pads in accordance with manufacturer specifications. MotivePower monitors and records the type and amount of all coatings and solvents sprayed in gallons per day and gallons per year and records the pressure drop across each spray-paint-booth filter system once daily (excluding days when not operating). MotivePower maintains and operates a pressure-drop monitoring device.

At the SWBP Building, MotivePower conducts the following additional monitoring and recordkeeping tasks:

- Record the usage rate in gal/month of each coating and solvent used in the paint booth.
- Record VOC content in lb/gal for each coating and solvent used.
- Calculate and record VOC usage for each coating and solvent used in the paint booth.
- Calculate and record on monthly basis the total VOC usage of the paint booth in lb/month.

2.2.8 Applicable Requirements

In addition to the Facility-wide requirements summarized in Section 1.11, the requirements that apply to surface coating operations include:

IDAPA 58.01.01.700.02 - Notwithstanding the provisions of Sections 701..., no source shall be required to meet an emission limit of less than one (1) pound per hour.

IDAPA 58.01.01.701.01 - No person shall emit into the atmosphere from any process or process equipment commencing operation on or after October 1, 1979, particulate matter in excess of the amount shown by the following equations, where E is the allowable emission from the entire source in pounds per hour, and PW is the process weight in pounds per hour:

a. If PW is less than 9,250 pounds per hour, $E = 0.045(PW)^{0.60}$

IDAPA 58.01.01.161 - Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.

IDAPA 58.01.01.210.20.a - If the owner or operator demonstrates that the toxic air pollutant from the source or modification is regulated by the Department at the time of permit issuance under 40 CFR Part 60, 40 CFR Part 61 or 40 CFR Part 63, no further procedures for demonstrating preconstruction compliance will be required under Section 210 for that toxic air pollutant as part of the application process.

2.2.9 Emission Estimates

Due to customer specifications and evolving state and federal regulations (e.g. the promulgation of NESHAP (MACT) Subpart MMMM), paint and coating formulations are constantly being modified by the manufacturers. As such, many formulations and types of coatings have changed since the emission estimates were provided in the 2006 Tier II and PTC application, and more than 100 different coating materials are utilized in the course of a year at the MotivePower facility. Therefore, MotivePower has completed a detailed review of the VOC, TAP and HAP constituents present within each coating, thinner, and cleanup material used during July 2006 through June 2007 (07/06 – 06/07) at the facility to facilitate the calculation of surface coating related emissions.

To facilitate the evaluation of the VOCs, HAPs, and TAPs within each coating, thinner and cleaning material, the physical and chemical composition (maximum concentration for constituents with a lower and upper range) for each product as presented in Material Safety Data

Sheets (MSDS') are entered into a site-specific Microsoft Windows©-based Coating Tracking System. After entering the MSDS information for each coating material, the Coating Tracking System is used to identify individual HAPs and TAPs within each coating and thinner that may be used at the facility. A summary of the usage rates, maximum HAP and TAP emissions, and the actual HAP and TAP emissions from the 07/06-06/07 period are included in Appendix D.

2.2.9.1 North Large Paint Shop Heater Emission Estimates

Although the heaters in the North Large Paint Shop were determined to be exempt from PTC requirements during the 2006 Tier II OP and PTC modification, emission rates were included in the dispersion modeling analysis. Emissions were calculated using emission factors for AP-42, Section 1.4, *Natural Gas Combustion*, July 1998 for small boilers (<100 MMbtu/hr). A conversion factor of 1,020 Btu/scf was used to calculate natural gas usage on the basis of the boiler capacity. Annual emissions were calculated on the basis of 8,760 hr/yr of operation. The two heaters are a combined 7.2 MMBtu/hr (7,058.82 scf/hr).

Table 2.2.9.1
NLPS Heater Emission Estimates

Pollutant	Emission Factor	Heat Rating	Emission Rate	Emissions
	lbs/scf	scf/hr	lbs/hr	tons/yr
PM / PM-10	0.0000076	7,058.82	0.0536	0.235
SO2	0.0000006		0.0042	0.019
NOx	0.0001		0.706	3.092
VOCs	0.0000055		0.0388	0.170
CO	0.000084		0.593	2.597

2.2.9.2 Particulate Emission Estimates

Each paint booth is considered an emission source with respect to the process weight regulation. The maximum particulate emission rate from coating operations in any one of the paint booths, as shown below, is 0.08 lbs PM/hr. This emission rate is less than the 1.0 lbs/hr minimum rate limit; and therefore, process weight limitations are inherently met through establishing an emission rate of 1.0 lbs/hr at each paint booth.

PM and PM-10 emission estimates were established using the following data and assumptions:

- For hourly emissions, application of up to a maximum of 100 gallons per day of coatings and thinners at any one paint shop.

- For annual emissions, application of up to a maximum of 26,750 gallons of coatings and thinners per consecutive 12-month period.
- The solids content of the coatings is 50 percent by weight solids (Note the average percent by volume solids is much less than 50 percent based on 07/06-06/07 usage records.).
- The density of coatings is 10.0 lb/gal (Note: The average density of coatings used between 07/06-06/07 is approximately 9.1 lbs/gal).
- The transfer efficiency of spray application is 40 percent (AP-42, Section 4.2.2.8 Automobile and Light Duty Truck Surface Coating Operations).
- All paint not transferred to the surface is collected by the ventilation system and emitted through two stacks.
- PM-10 fraction of 66 percent for paint aerosol not transferred (EPA, 1989).
- The filter pads control PM-10 by a minimum of 99.58%.

Hourly Emissions

PM =	200 gal	day	10 lbs paint	0.50 lbs solids	1-0.40 (TE)	1-0.9958 (CE)
	day	24 hrs	gal	lbs paint	tons sprayed	

PM = 0.105 lbs/hr

PM-10=	0.105 lbs PM	0.66 lbs PM-10
	Hr	lbs PM

PM-10= 0.069 lbs/hr

Annual Emissions

PM =	26,750 gal	10 lbs paint	0.50 lbs solids	1-0.40 (TE)	1-0.9958 (CE)
	year	gal	lbs paint	tons sprayed	

PM = 337.05 lbs/yr

PM-10=	337.05 lbs PM	0.66 lbs PM-10
		lbs PM

PM-10 = 222.5 lbs/yr